PAN AMERICAN fisherman

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1954

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In This Issue . . .

★

THE MARINE FISHERIES SETUP

★

PROTECTION FOR UNITED STATES FISHING VESSELS

★

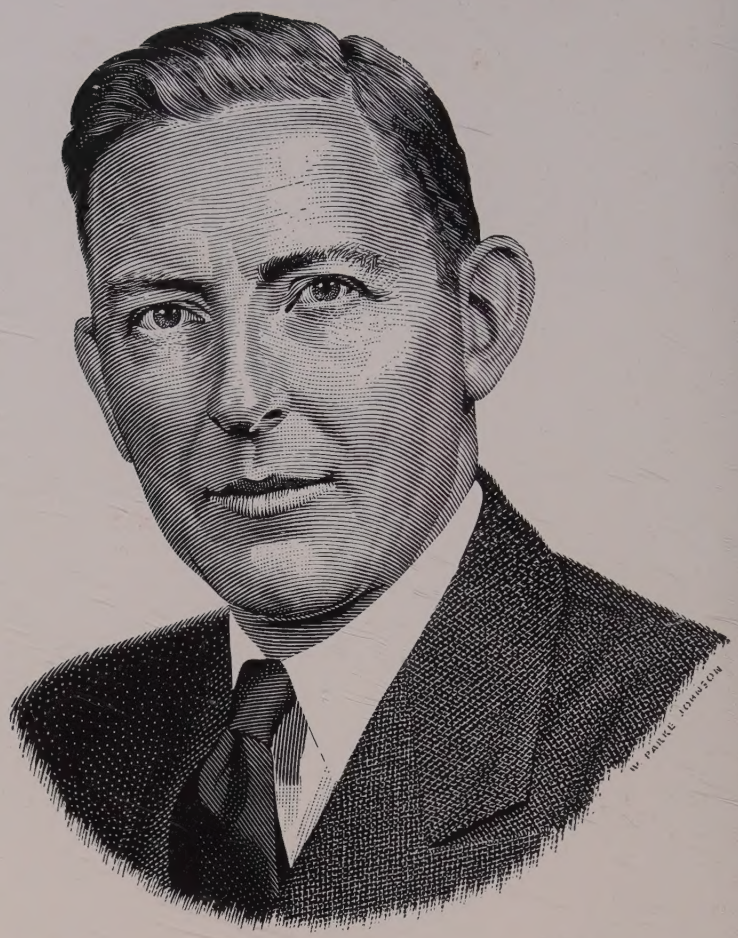
NATIONAL TUNA WEEK

★

REPORT FROM WASHINGTON

★

"...through a person-to-person canvass..."



ROBERT S. MACFARLANE
President
Northern Pacific Railway Company

"Combine a good product with enthusiastic salesmanship, capably directed, and favorable results are reasonably certain. This winning combination through a person-to-person canvass recently added more than 8,000 employees of the Northern Pacific Railway to the Payroll Savings Plan for purchase of U. S. Savings Bonds. It is gratifying to me that the organized efforts of Northern Pacific personnel not only have resulted in substantially increased systematic saving and a greater investment in America's future by our employees, but that the Treasury Department is using our campaign as an example throughout the railroad industry in its efforts to step up regular purchases through payroll deductions."

The U. S. Savings Bond *is* a good product . . . Payroll Savers *are* enthusiastic Bond Salesmen . . . company spirit *was* good because everybody on the Road knew that Mr. Macfarlane was 100% behind the effort to increase employee participation in Northern Pacific's Payroll Savings Plan.

But, there was still another, and very important, factor in the success of Northern Pacific's campaign that added more than 8,000 new Payroll Savers — a Person-to-Person Canvass.

A good Person-to-Person Canvass is an organized employee effort that puts a Payroll Savings Application Blank in the hands of every man and woman in the company. There is no pressure, no drive to "sign up." Every employee is free to make his own decision. That's all there is to a Person-to-Person Canvass, but in literally thousands of companies, as on the Northern Pacific, a high percentage of employees *want* to build their personal security and are quick to join the Payroll Savings Plan when its availability and many advantages are brought to their personal attention.

Upwards of 8,000,000 employed men and women are enrolled in the Payroll Savings Plan, most of them as a result of Person-to-Person Canvasses. Each month these Payroll Savers invest more than $160,000,000. The 1954 goal is 9,000,000 Payroll Savers. It can be reached if you and other executives will take a personal interest in the Plan and what it means to your employees, your company and your country.

If your company has the Payroll Savings Plan your State Director will be glad to help you organize a Person-to-Person Canvass that should increase employee participation to 50%, 60% or more. If you do not have a plan he will show you how easy it is to install one. Write to Savings Bond Division, U. S. Treasury Department, Washington, D. C.

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PAN AMERICAN FISHERMAN

Record Pacific Halibut Catch

THE International Pacific Halibut Commission reports that the recently announced all-time record halibut catch of 70 million pounds is worth over $14,000,000 at wholesale prices. The catch as landed was worth over $11,000,000 to 670 regular halibut vessels and 600 small boats and to the 4,000 fishermen that manned them.

With the closure on September 9 of the last regular halibut fishing seasons in the far western Alaska grounds including Bering Sea and in the waters off southern Oregon and northern California, it is now evident that the 1954 total catch will be slightly over 70 million pounds. Small quantities of halibut will continue to be landed under permit until November 15 by setline vessels fishing for other species.

When regulation began 23 years ago the catch was only 44 million pounds and a nine-month season of fishing was required to make the catch. Under the Halibut Commission's management there has been such a progressive improvement of the stocks that the present 70-million pound catch was taken in about two months of fishing.

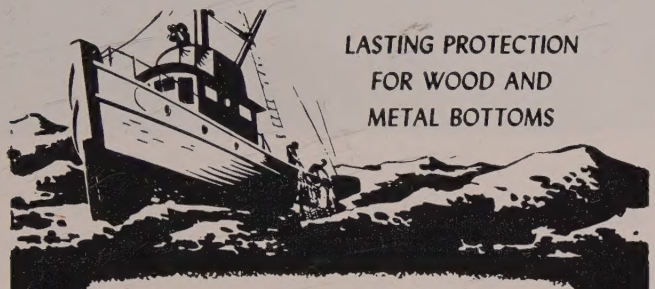
The accumulated gain in production over the 1931 pre-regulation level now totals nearly 250 million pounds of halibut, worth over $35,000,000 dollars to the fleets at the prices that prevailed during the period. In addition to this direct gain the reduced time required to take the increased catch has left the fleets free to engage in other fisheries or other activities. This saving of effort has been worth at least an additional $20,000,000 to the fishermen.

The combined economic gain of over $50,000,000 has resulted from appropriations to the Commission of $1,750,000 by both countries combined during the entire 30 years of its existence. Thus Canada and the United States have enjoyed an extremely high return from their investment.

The increase in halibut production in the regulated Pacific coast fishery is in sharp contrast to what has occurred in unregulated fisheries elsewhere. Reduced fishing due to the war gave European banks a chance to recuperate, but the catch from the unregulated European halibut fishery has now declined from a post-war 1950 high of 31 million pounds to about 20 million annually. Over the same 5-year period the Canadian Atlantic catch has declined from 10 million pounds to under 5 million. The New England catch that many years ago amounted to as much as 13 million pounds annually has been at or well below one-half million pounds the past decade.

As a result of these production declines in the unregulated fisheries and the increase in the controlled Pacific fishery the Pacific catch this year will represent about 75% of the world halibut production compared to 58% in 1950.

Regulation of the Pacific halibut fishery and all investigations of the fish stocks by the Commission including the tagging of nearly 55,000 halibut have been accomplished with very modest annual appropriations from each government, ranging from $25,000 in 1935 to $50,000 at present. *



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American Cancer Society

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About This Issue . . .

In this exact spot last month we promised that this issue would contain a full report on the two new tuna clippers built in San Diego. Now we've got to eat crow, for things have moved a little slower than expected.

But cheer up—everything is under control for our next issue. The statistical information has been gathered, the photographs have been taken . . . and you'll get all the dope in our December issue.

*

Back in our pages after a long absence is Dr. W. M. Chapman of the American Tuna Boat Association. On pages 12 and 13 you'll find his article on the bill S. 3594, "Protection for United States Fishing Vessels."

This ties in with a news item on page 24, "The Off-Shore Situation."

*

California is out in front on many things, and one of them is the State setup on the Marine Fisheries Branch, covered on page 20. It certainly shows the wide scope of this industry and the factors that make it tick.

*

Oh yes, that front cover illustration. Did you notice the tuna? Our press release said, "He couldn't resist the lure. This poor tuna is going to market because he followed the wrong streamlines. Reeling in (really) is Tuna Queen Joen Selford, San Pedro, California . . . all in behalf of National Tuna Week, November 4-13.

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The 1953 Fishery Volume of

Canned Products

THE Statistical Section of FWS has released preliminary 1953 production figures on a number of canned fishery products. Each is summarized briefly below:

Tuna

The pack of canned tuna and tuna-like fishes in the United States, Hawaii, and Puerto Rico during 1953 set a new record of 9,580,000 standard cases valued at $126,258,000. A standard case of tuna consists of 48 No. ¼ cans.

Excluding 722,967 cases of unclassified tuna, yellowfin led in the production of canned tuna with 3,059,000 cases valued at $40,097,000. The second most important species was albacore (white meat tuna) with 2,691,000 cases valued at $37,461,000; followed by skipjack with 2,530,000 cases, valued at $32,982,000.

Crabs

The pack of canned crabs in hermetically sealed containers during 1953 totaled 114,900 standard cases (19.5 pounds per case), valued at $2,898,000 to the processor. This was an increase of 33% in volume and 39% in value compared with 1952.

The production on the Atlantic and Gulf Coasts was the second highest ever recorded. However, on the Pacific Coast, the pack was only slightly above that of 1952 and only 24% as large as the record 1948 pack. The Atlantic and Gulf Coast pack totaled 70,334 cases, while on the Pacific Coast it totaled 44,552 during 1953.

Shad

The United States pack of canned shad in 1953 amounted to 7,603 standard cases, valued at $57,571 to the canners. This pack was 437 cases less than in the previous year and was only a fraction of the record 1944 pack of 41,368 cases.

No shad were canned on the Atlantic Coast in 1953. During the years 1944 to 1946 as a result of wartime demand for canned shad products, over 20,000 cases of shad were packed on the Atlantic Coast.

Shrimp

The pack of canned shrimp in 1953 totaled 1,016,116 standard cases (15 pounds each), valued at $18,946,622. This is the first time since 1940 that this production has exceeded 1,000,000 cases, and the first time that the value of the pack has been above $13,000,000.

A preliminary tabulation of data collected by the various state conservation agencies indicates that the catch of shrimp in the South Atlantic and Gulf States set a new record during 1953. The totals reported by these agencies show landings of 133 million pounds, exclusive of the North Carolina catch.

Mackerel

The United States pack of mackerel and jack mackerel in 1953 amounted to 442,457 standard cases (45 pounds each), valued at $3,730,765 to the canners. This was a decrease of 71% in volume and 67% in value from the 1952 pack. Packers report that the decline was primarily due to a scarcity of fish in California waters during 1953.

Sardines

The 1953 pack of California sardines amounted to only 63,612 standard cases—the smallest pack since the inception of the fishery. As recently as 1950, the pack of these fish amounted to over 5 million cases.

As a result of the disappearance of the sardines from California waters, the pack declined to 2,864,984 cases in 1951, and to only 106,746 cases in 1952.

Anchovies

The 1953 pack of canned anchovies amounted to 1,061,995 cases, valued at $7,661,173 to the canners. This represented an increase of 57% in volume and 62% in value over the previous record production in 1952. In 1949, less than 6,000 cases were packed.

Shortage of California sardines during the past few years has caused fishermen and canners to look for other products which can be utilized to keep vessels and plants operating. Anchovies have provided the most successful substitute product in that area and have consequently increased in volume more than any other canned product during that period.

Salmon

The 1953 pack of canned salmon in the Pacific Coast States amounted to 1,049,547 cases, valued at $24,067,839 to the canners—an increase of 18% in volume and 10% in value compared with the previous year.

The pack of pink salmon amounted to 452,305 cases, compared with only 4,711 the previous year. Pink salmon have a two-year cycle and are taken in volume in Puget Sound waters only in odd-numbered years.

The packs of chum salmon (176,506 cases) and silver salmon 79,584 cases) were far below those for 1953. The pack of chinook salmon (102,292 case) was likewise less than in the previous year and was the smallest pack of this species in the Pacific Coast States since 1870.

Roe and Caviar

The pack of canned fish roe and caviar in the United States in 1953 amounted to 65,742 standard cases (48 pounds each), valued at $1,812,844 to the packer. The volume of the pack was 3% higher and the value 8% higher than during the previous year.

Animal Food

The production of canned animal food packed from marine-animal products during 1953 (3,881,245 standard cases of 48 pounds each, valued at $17,348,052 to the manufacturer) was 11% higher in both quantity and value than the previous record pack in 1952. In 1947, when the first postwar pack of this product was produced, 910,000 cases were packed. Since then production has increased every year with the single exception of 1951. ★

The Canner's Problem: 1954 Model

It is altogether likely that 1954 may see the return to food budgets with a little more care being exercised in spending the food dollar. This fact may reflect favorably to canned foods which are generally recognized as being most economical. Canners cannot, however, rely on that fact to sell their pack. The share of the food dollar that will go for canned foods will, in the final analysis, depend on our sales effort. Canners would do well to pay heed to that fact, study consumer wants, and pack the quality the consumer is willing and able to buy.—*E. E. Willkie, President, National Canners Association.*

Report from **Washington**

Gleaned from the Nation's Capital by John Harms

TUNA COMPETITION.--Tuna industry can look for increasing competition from beef, pork, poultry and eggs for the American protein market this winter. Beef production now is running at near-record rates, with the possibility this will continue well into next year and beyond. Pork production is now rising seasonally. Poultry and egg supplies also are at record levels, with prices sinking.

While tuna stands high as a protein-provider among these products, the tuna industry is being confronted by huge campaigns on the part of the agricultural industry and the Department of Agriculture to increase consumption of farm-raised protein foods. The butter industry also is beginning to push for greater sales. Sometime next year, the Agriculture Department is expected to come up with a program to get rid of the big butter glut, probably to be underwritten with government funds.

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ECONOMY EXPANDS.--Washington officials are talking optimistic about next year's business outlook. The feeling is that there will be a big demand for almost all consumer goods--including a big market for tuna and other fishery products.

Dr. Arthur F. Burns, chairman of the president's Council of Economic Advisers, says the nation is heading into a period of economic expansion. While things are looking up once more, Burns warns that this might be only temporary. As a whole, however, he says the economy seems seems to be improving. He adds:

"We know that recovery in financial and investment markets has been under way for some months. We know that the decline of employment in our factories, shops and offices has recently stopped and that an expansion has again been under way in recent weeks."

The President's top economists point to the following favorable developments, which indicate a solid under-pinning to the food markets:

Construction, a primary barometer of economic activity, has been smashing records each month. Consumer spending is at an all-time high, and likely will continue at near-current rates. Reduction in Federal spending is having less of a deflationary impact. The worst phase of industry-business inventory cutting is past.

Production is increasing in the important steel industry. Automobile output now is going into full production again after the 1955 changeovers.

All these signs point to a good fish market next year. Just how good is likely to depend on industry promotion--in view of agriculture's selling drives.

FOOD TRADE PROBES.--You can look for more investigations into the food trade when the next Congress gets underway. Target is to be distributor margins, with the trade put on the defensive. While primary impetus will be behind probes into margins of handlers of farm food stuffs, there are signs that probes will also edge over into the fish industry.

Publicity from the investigations may tend to smear the food trade on the basis that margins are reasonably high. Such charges, once made, seldom can erase impressions made on the interested public whether they are based on fact or not.

One of the objectives of those leading the attack is to gradually substitute government management and operation for private distribution. The first step would be to increase and expand government regulation.

What tosses fuel on the fire is recent happenings in the coffee market when prices shot sky-high. Without pre-judging the merit of the charges that speculators "rigged" the coffee market, opinion in informed Washington trade circles is that Congress will move next year to place the Coffee and Sugar Exchange under Commodity Exchange Authority regulation.

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JAPANESE EXPORTS.--According to a recent report to official Washington circles, the Japanese government is preparing to gear its entire economy to exports of Japanese goods. While it's not clear what this means by way of U.S. tuna imports from Japan, a significant step is the step up of Japanese negotiations with other countries for removal of tariff barriers and easing of import controls.

In addition, the Japanese government intends to give greater assistance to exporters to get their goods accepted in foreign markets. Apparently, we're in for a big flow of all kinds of goods produced by cheaper labor from the Land of the Rising Sun.

In the meantime, a London press dispatch indicates the Japanese fish catch has jumped a whopping 73 per cent during the past five years. The dispatch says that this increase was made between 1949 and 1954. During the same period, however, the number of fishing enterprises increased only by about 13 per cent.

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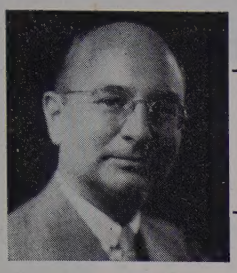
SALT-WATER ICE FOR TUNA.--The Fish & Wildlife Service reports that tuna vessels and trawlers operating out of ports on the Isle d'Yeu in France have been using salt-water ice to preserve catches. Here's the story:

A French firm built a plant for the manufacture of ice from salt water adjacent to this port in the fall of 1953. As a result of the severe weather conditions then prevailing on the nearby fishing grounds, a thorough test of the practicality of the salt-water ice was possible.

One tuna vessel, carrying 13 tons of this type of ice, caught substantial quantities of tuna the last few days of August, 1953. Tornadoes sweeping the area prevented the vessel from docking at a port. Although the fish had been in ice for 27 days when landed, the cannery manager judged the load acceptable for processing. The eyes of the fish were described as bright and the meat firm. *(Continued on page 21)*



The Publisher's Page

Thanksgiving 1954.—When you sit down to that Thanksgiving dinner this year, why not mix some real thanks along with the meal?

America is eating better than ever before . . . which is good for our industry. It is equally good for each of us to pause once in a while and think how good we've got it.

In the hurry and bustle of modern living we all have to take many things for granted. And one of the easiest to take for granted is that we deserve all the good things in life. We'll tell the world we're pretty good, we are! Pass the turkey and dressing again, mom. And heap on the potatoes and gravy. Let's live it up!

Okay, okay. Live it up. You're doing a job and it's your life. But we've often noticed that the most deserving people usually are the ones who register the most thanks for their many blessings.

In this year of peace and prosperity (the best all around for a long time) it's a simple thing to take a little time out to be really thankful. This is especially true in the good old U.S.A., in this good and healthy industry, and in this year of our Lord 1954. Most of us never had more to be thankful for than right here and now.

More and Better Jobs.—A booklet just received from the Du Pont Company, Wilmington, Delaware, is filled with sound sense and an attractive view of the future . . . centered around research and new developments.

It foresees 23,000,000 more industrial jobs by 1975, which would bring the national total up to about 80,000,000. Such expansion would have an automatic sequence: more jobs for more workers, better living conditions for everybody.

No need to fear such advances, say the Du Pont folks. The automobile was scorned by smiths, liverymen, buggy manufacturers, stable employees, and all the others associated with a horse-drawn economy. Yet the automotive industry is now one of the world's greatest, and it is the mother of a host of subsidiary industries engaged in supplying its wants.

Development in one field produces employment in others. And developments come from research . . . research and expansion by the leading industries of this great country. They are willing to spend billions of dollars for new plants, improved processes, better ways of doing things.

Of course such research and expansion can come "only if individuals are free to save, if corporations are free to earn a profit commensurate with the risks involved, and if a fair share of the earnings can be retained without penalties from taxes that are inequitable."

Coffee-Break Reflections.—Are you one of the many people whose main inducement to get out of bed in the morning is the prospect of downing a couple of cups of coffee? Or is it the shop or office coffee-break that gives you a lift once or twice each working day?

In either event, you know how coffee's price has shot up the past year . . . because of a shortage in Brazil. Beyond that, how much do you know about this popular beverage?

Do you know that the coffee tree bears a flower of great beauty, resembling an orange blossom and exuding a jasmine-like fragrance?

Do you know that every coffee cherry is hand-picked, and that no machine yet has been developed to replace the manual harvesters?

That it takes the yearly harvest from a tree to produce a single pound of roasted coffee? That coffee is the only fruit in which the pit is saved and the pulp is thrown away?

Maybe if you will mull over these facts next time you quaff a cup of this brown beverage, you'll understand why many people think the prices are also too high for the canned fish they buy in retail stores.

Sailing the seas for bait and satisfactory catches, canning and marketing—all have become expensive operations in our industry. The consuming public needs to be taught that it is getting the best possible value.

Fishes with Fins and Scales.—Any fish lacking fins and scales is considered "detestable," according to the Bible. The Biblical passage dealing with foods derived from water is found in Leviticus 11:9-12. This passage is the basis on which adherents of certain religious faiths and denominations determine what fishery products they may or may not eat.

Several varieties of fish, formerly thought of as lacking fins and scales, are now known to possess both of them. Generally, fish lacking both fins and scales are rare. Many fish usually considered to lack scales actually have them, but the scales are so small that they are not apparent to the naked eye. Among such species are the tuna, swordfish, mackerel, pompano, butterfish and anchovies. Although most of the small scales of some of these fish tend to fall off after capture, careful inspection will show that these fish do have scales.

To answer numerous requests for information on fish as related to religious requirements, FWS has brought out Leaflet No. 8, "Fishes with Fins and Scales," which covers 125 common food fishes. Get your free copy, if interested, from the Division of Information, Fish & Wildlife Service, U. S. Dept. of Interior, Washington 25, D. C.

Fish and International Law.—When the late humorist, Robert Benchley, was an undergraduate at Harvard a course in international law was a headache for him.

At a mid-term examination he was floored by this problem: "Discuss the arbitration of the international fisheries problem in respect to hatcheries protocol and trawl procedure as it affects the point of view of (1) the United States and (2) Great Britain."

After some thought Benchley wangled a passing grade from a kind hearted professor by writing: "I am a trifle hazy in this fisheries business about the point of view of both the U.S.A. and Great Britain. I propose, therefore, to discuss the question from the point of view of the fish."

BRIANT SANDO

SPECIAL ISSUE FOR DECEMBER 1954

A magnet to draw trade your way

IMPORTANT *Announcement*

OUR issue for December 1954 will combine our usual Year-end Edition with other timely topics to lend extra attraction. It will thoroughly cover these important . . .

Special Features

★ **Review and Preview of the Tuna Industry**
The highlights of the year 1954 in California's commercial fishing circles . . . and a look ahead at prospects for the New Year.

★ **Two New Tuna Clippers Launched at San Diego**
The industry is heartened by this half-million-dollar addition to the tuna fleet. Complete story and illustrations on the construction and launching of these two new boats.

The above, plus the fact that tuna is California's fourth largest industry, adds up to many good "reasons why" you should advertise in this special Year-End Edition.

Pan American Fisherman

BUSINESS MAGAZINE OF THE WEST COAST FISHERIES

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Live Bait Equipment

By C. B. CARLSON

THE pole-and-line fishery for tuna depends upon adequate supplies of live bait, and the potential range of the tuna fishing vessel depends in part on the vessel's ability to carry large quantities of bait. The equipment used to capture bait and to preserve it alive varies from the simple net and rowboat combined with a tank of non-circulating sea water used in the Cuban fishery to the very elaborate system of U.S. Pacific tuna clippers.

In the Hawaiian fishery more elaborate equipment is used for capturing and holding bait alive. Bait is caught in fine mesh at night by using lights to attract it to lift nets or surround nets, or during the day by using large encircling nets. Outboard motors power the net boats and the bait is transferred to the vessel with buckets to prevent injury. Live bait wells are built in the hull and are fitted with screened holes below the water line to permit the entrance and exit of sea water. Bait may be kept alive from one to several weeks in wells of this nature.

In the U.S. Pacific albacore fishery the system of capturing and holding bait alive was derived from the tuna clippers, but is less elaborate and the vessels are smaller. Circulating water is supplied by pumps, and the bait is caught in large lampara nets set from a powered boat or from the fishing vessel.

On U.S. Pacific tuna clippers is found the most elaborate system in the world for capturing and holding bait alive. The structure of the bait tanks must be adequate for the weight of water plus safety factors for service at sea. The amount of bait that can be carried in a tank of given volume is probably dependent on a number of factors including oxygen content, temperature, salinity of the water, etc. On one vessel formerly operated in the commercial tuna fishery off Central America in the Pacific Ocean, 300 and 400 scoops of bait (each containing about 12 lb. or 5.4 kg.) were placed in deck tanks having a capacity of 4,100 and 6,130 gal. (15,519 and 23,202 l.) respectively, exclusive of baffle and screen areas.

The design of screens in the bait tanks aboard a clipper is very important. Typical screens are made of ¾ inch (2 cm.) waterproof marine plywood with ⅛ inch (3.2 mm.) slots cut by a circular saw on 1 inch (2.5 cm.) centers. The deck bait tanks are of a general rectangular form to suit the available space, but the below deck tanks (or wells) are vertical on three sides while the fourth side and bottom conform to the shape of the hull.

The pumps for supplying sea water to the tanks are of the vertical-impeller type designed to deliver large volumes at low head pressures. It is considered best practice to have pumps with a performance capacity capable of delivering enough water to change the contents of the tanks 5 to 7 times per hour.

Most of the bait is taken in sheltered areas along the coasts of Mexico and Central America. Consequently, small boats are suitable and desirable, for the bait is frequently found in water too shallow or too dangerous for the clipper to enter. A power speedboat capable of speeds up to 30 m.p.h. or more, a net skiff, and a "dry boat" are used to find and capture bait.

Most of the bait is caught in hand-operated lampara nets varying from 130 to 160 fm. (238 to 293 m.) in length and from 50 to 75 feet (15.2 to 22.9 m.) in depth at the bag. The end meshes in the wings vary from 5 to 8 in. (12.7 to 20.3 cm.) stretched measure, and gradually diminish in size to ½ in. (12.7 mm.) mesh stretched measure, in the bad. If the bait is caught in areas too shallow or hazardous for the clipper to approach, it is transferred to a collapsible receiver which can be towed.

A new type trap lift net for catching tuna bait fishes, operated from the vessel at night with lights to attract the schools of bait, eliminates the need for special bait boats and large bait seines, and appears promising for use by the commercial tuna fleet. This net has been developed by the technical staff of the U.S. Fish and Wildlife Service exploratory fishing vessel *Oregon* and has been extremely successful in catching anchovies and other small bait spp. in the Gulf of Mexico. ★

This is a summary of papers read at the FAO International Fishing Boat Congress.

Pismo Clams

Innumerable Pismo clams which in five and one-half years of complete protection have grown to legal harvesting size on two general areas at Pismo Beach and Morro Bay, San Luis Obispo County, will be available to clam diggers after March 12, 1955, the California Fish and Game Commission has decreed.

In effect, two Pismo clam refuge areas will be opened, two corresponding areas will be closed, and two other areas now closed to clam digging will remain open.

The two areas to be opened next March are: (1) at Pismo Beach, from the wooden entrance ramp to the Oceano ramp, a distance of 2.2 miles; (2) at Morro Bay, from Morro Rock north for 1.5 miles to the 35th Street Morro Stand, including the entire present closed area at Morro Bay.

When these two areas were closed to clamming in October, 1949, only 4% of the clams present were of legal size—five inches or more in diameter. The Department of Fish and Game reports that over 50% of the clams will be of legal size when these areas are opened next March.

The two presently open areas which will be closed are: (1) at Pismo Beach, from Oceano ramp south to the piling marking the old LeGrande pier, approximately three miles; (2) at Morro Beach, from 35th Street Morro Stand north for one mile to Hotel Point.

Two areas to remain closed are: (1) at Pismo Beach, from Oso Flaco Creek south to the Santa Maria River, a distance of 4.6 miles; (2) at Cayucos Beach, from Old Creek north to Big Cayucos Creek.

PROTECTION *For United States Fishing Vessels*

By DR. W. M. CHAPMAN

Director of Research
American Tunaboat Association

THE purpose of S. 3594 is to place private vessels of the United States under the protection of U.S. law when they are operating on the sea outside the jurisdictional waters of the United States within the rights recognized by international law.

The term "vessel of the United States" as defined in Section 1 of this Act, applies to all private vessels documented under U.S. laws of five-net registered tons and over. Also included are all fishing vessels owned by citizens of the United States, thus covering fishing and pleasure vessels which are less than five-net registered tons in size.

Section 2 (the heart of the bill) provides authority for the Secretary of State to take specified actions to secure the release of a vessel of the United States which has been seized on the sea by a foreign country on the basis of rights or claims asserted by that country but not recognized by the United States.

The Secretary of State shall take these actions where there is no dispute of material fact between the two countries with respect to the location or activity of the vessel at the time of its seizure.

No definition is made of the rights on the sea which shall be recognized by the United States, consequently this Act does not hinder this nation's flexibility in dealing with such problems.

Where Do We Stand?

What a fisherman wants most of all is to know where and how he can operate on the sea without being molested by a foreign government. That is what the industry sought in the definition of rights and high seas included in the bills introduced in the House, but we were told that this field of international practice was under active review in regional international bodies, in the United Nations, and before the International Court of Justice.

As a consequence some adjustment of policy on this subject by the United States may be required later. To have rigid definitions or rights under international law included in domestic legislation might impede the United States in adjusting itself to the flow of changing events.

Accordingly we have accepted the present language. While it does not necessarily tell the fishermen where and how he safely can operate next year, it does tell him where and how he safely can operate next trip—which is a big advantage.

Section 2 (b) has been agreed to with reluctance by the industry. This provides that where there is a dispute of material fact with respect to the location or activity of the vessel at the time of its seizure this Act will not apply. A chief reason for such reluctance is that in several countries off which U.S. vessels operate it is common practice to give the officers of the seizing vessel a share of the fines.

This encourages such officers to seize a vessel at one place and accuse it of fishing at another place closer to shore, or to seize a vessel close to shore when it is engaged in innocent passage and claim that it was fishing.

The normal thing is for the foreign government to accept the word of its seizing officers and not that of the officers of the vessel seized. A foreign government might even, for policy reasons, desire such seizures as a harassing measure.

In such cases the dispute is between two sovereign governments. Neither can force the other before an investigative or juridical body under its own jurisdiction to argue and determine the facts. Such disputes can only be argued before appropriate international bodies. Due to these circumstances we have had to agree to the present wording and except all seizures in which there is a dispute of material fact from the effect of this legislation.

We have agreed to this because (a) we are primarily interested in being protected from seizure under claims made far at sea; (b) we must agree to the general good faith and veracity of foreign nations; and (c) the legislation does not hamper the United States in taking a case for argument and determination, although the fisherman might be required to wait months or years for vindication.

If the seizure has been made under rights in international law not recognized by the United States, and there is no dispute of material fact between the U.S. and the seizing country regarding location or activity of the vessel when it was seized, then the Secretary of State is authorized *to take such action as he deems appropriate* to (1) attend to the welfare of the vessel and its crew while it is held captive, (2) secure the release of the vessel and crew, and (3) pay any fines or post any bonds that may be required.

Once again the bill, by permitting the Secretary of State to determine how soon practicable is and what actions may be appropriate, refrains from binding the hands of the Executive in the conduct of foreign affairs.

Loss of Earnings

Individual vessels operate on the high seas under no right that pertains to them individually but only under the rights that pertain to their sovereign. Hence our fishing industry wanted the United States, its sovereign, to tell it where and how it could fish on the high seas and then to protect it while doing so by pay-

ing the expense of any seizure by a foreign government.

The biggest such expense is not the fine, or bond, but the loss of earnings suffered by vessel and crew during lengthy detention. We encountered two sorts of objection to this full protection: (1) The Secretary of State could not act as a Court of Claims for determining extent of loss in earnings suffered by vessel and crew because of illegal detention; therefore the bill would have to be rewritten to direct such matters to the Court of Claims. (2) The Congress might be more reluctant to provide full financial coverage rather than the limited protection set forth in the present bill.

We accepted the latter because (1) If the Secretary of State acts with reasonable speed and energy under this bill there will be little or no loss of earnings to a seized vessel or crew because detention will be brief; (2) If the Congress shows interest in protecting U.S. vessels in their legal operations there is little likelihood of much seizure activity by foreign countries; and (3) If later events prove it necessary Congress can enact more protective legislation.

Section 3 excepts two sorts of seizures from the provisions of this Act: (1) Seizures made by a country at war with the United States; and (2) Seizures made in accordance with the provisions of any fishery convention or treaty to which the United States is a party. We wholeheartedly support such regulatory actions, also full flexibility to the Executive in handling such affairs as regulating fishing activity off the shores of other countries by treaty or otherwise.

The fishing industry approves this flexibility because (1) Such restrictions will be under law so that we will know where we stand; (2) The fishing industry abhors international friction as much as does the Government and has consistently urged conservation and other treaties on fishing rights to reduce disputes.

Objections to Bill

In the form that the bill was originally introduced in the House, we were told that it might be possible for a fisherman who was not doing very well financially to "sell" his vessel to the United States at a profit by getting it seized by a foreign country and that not only the owners but the crew might profit by such an act.

Under the bill now recommended this is not possible. The seizure has to be made on the basis of rights or claims in international law not recognized by the United States and under conditions where there is no dispute between the two governments as to the material facts concerning the location or activity of the vessel when seized. In addition, owners and crew lose financially in direct ratio to the length of the detention through loss of earnings and risk of cargo spoilage.

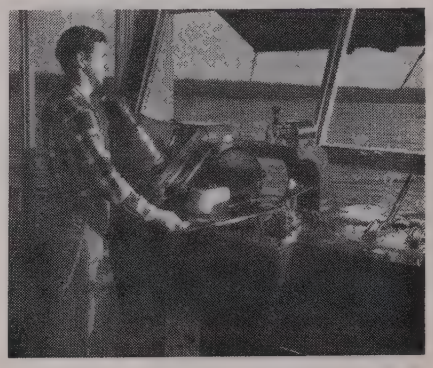
Another objection heard was that some country may wish to profit from this Act by making a claim not recognized by the United States then seizing U.S. vessels in order to make money off the fines. This appears far-fetched; all countries off which U.S. fishing vessels operate get loans, grants in aid, outright gifts or financial help from our Congress larger than any yield possible from a racket in fines.

A third objection that has been heard is that the Congress might not care to leave the U.S. Treasury open to large losses under this bill. Actually, had this Act been in effect for the past 20 years, there would have been no year when the Government would have been out-of-pocket more than $25,000 because of its provisions. When it is considered that the ex-vessel price of fish caught by vessels which would be affected by this bill exceeds $150,000,000 per year the actual money value of the possible fines is seen to be inconsequential. If the Committee chooses to put a limit on the amount to be appropriated in any year, this would have the approval of the fishing industry.

Another weak objection was a fear that the bill sought to change, or freeze, United States policy with respect to the breadth of the territorial sea, the regime of the high seas, fishing rights, or related subjects of international law or practice. The bill itself has no effect whatever on those right or claims. Nor does it antagonize any foreign country; this bill is purely a domestic affair concerning the relations between the United States and its citizens.

A final objection was that the bill gives one class of United States citizen special protective benefits, but this is not so. When fishermen are within the territory of another country (as we in the tuna fishery frequently are) we come within the purview of that country's laws just like any other citizen.

If we are poorly treated we have recourse to their courts, administrative facilities, or aid from the U.S. Embassy just as much and no more than any other United States citizen so situated. This bill affects only outside the territory of any country, as recognized by conditions peculiar to navigation under international law. The bill covers legal conditions of the high seas which are completely different from municipal law within the territory of a country, but gives the same protection to all United States citizens whether in fishing boats, yachts, tramp freighters, or ocean liners. ★



LEVER PILOT CONTROLLER

Automatic steering compensates for radar's limitations as a steering indicator. With this Sperry Lever Pilot controller, skipper at radar can set and hold heading with little or no error . . . and make small precise course changes as well as more rapid maneuvers.

Shrimp Film Released

An 18-minute educational film titled *Shrimp Please* has been released; sponsored by the Fish and Wildlife Service and the shrimp industry of Louisiana and Mississippi.

Designed to stimulate consumer interest in shrimp, the film depicts Gulf of Mexico shrimping operations, canning, breading, drying, and freezing processes, and the many methods of preparing shrimp for the dinner table.

Produced in sound and color, the 16 mm. film's early showings have aroused considerable enthusiasm. As a result, wide distribution of prints is planned with the hope of creating additional markets for shrimp catches.

Further information on this production, along with facts on other films in the commercial fisheries series, will be found in a booklet titled *Fishery Motion Pictures* which may be obtained free from the Fish and Wildlife Service, Department of the Interior, Washington 25, D. C.

EBB 'n FLOW

Lug-All Winch-Hoist

The husky, little (8¾ lb.) Lug-All Winch-Hoist is now offered in a new Marine model which has passed corrosion and salt spray tests.

It is claimed to be the most versatile portable winch-hoist devised for use in salvage and tug-boat operations, at marinas, yacht basins, on fishing fleets, in the engine rooms, etc.

Light in weight, yet lifts, lowers or pulls 1½ ton. When used with single cable, it lifts, lowers or pulls ¾ ton a distance of 10 feet. Made by The Lug-All Company, Wynnewood, Pa.

Radio Compass

The improved Roco Radio Compass is a portable, light weight direction finder and radio receiver with built-in speaker, available as a 1-band, 2-band, or 3-band unit, in any combination of bands desired.

Designed primarily to serve as an extremely accurate navigation instrument, the 1-band Roco with the basic beacon band, enables the skipper to obtain steering courses and a "fix" from charted marine and air beacon signals.

With either or both the broadcast band and the shortwave band added to the basic beacon band, the Roco becomes an all-purpose receiver, permitting the owner to navigate on the beacon band, listen to his favorite programs on the broadcast band and tune in on the Coast Guard, marine radio telephone and government time signals on the shortwave band. Write Porter Sinclair, Newport Supply Company, 2700 W. Coast Highway, Newport Beach, California.

To Speed Engine Starts

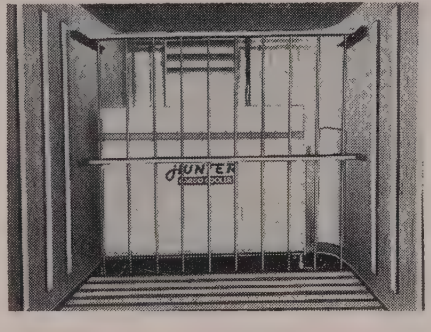
Operators of heavy duty gasoline and diesel engines will be interested in Standard Oil's new Chevron Pressure Primer System, designed to quick start all types of internal combustion engines at temperatures as low as 65° below zero.

This System uses Chevron Priming Fuel, a highly combustible material that permits the engine to run until it can build up enough heat to operate on the regular fuel.

In addition to simplicity, maximum safety is a feature that will particularly interest operators of marine engines and other installations where explosion and fire hazards are critical.

The bulbs are built to resist accidental release of the fuel by abnormal heat, water or physical shock.

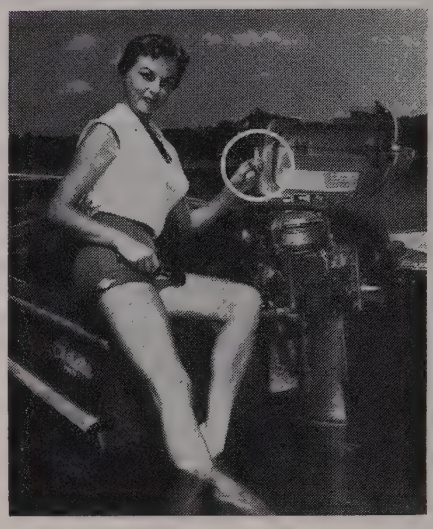
The Chevron Pressure Primer System is available from Standard Oil Company of California, San Francisco; The California Company, Denver, Colorado; Standard Oil Company of Texas, El Paso; and Standard Oil Company of British Columbia, Vancouver.



Cargo Cooler

Four distinct new features and design improvements have materially increased the refrigerating effectiveness of all three models of the Hunter Cargo Cooler for the transport industry, also made its operation and servicing simpler and easier.

The Hunter Cargo Cooler is a thermostatically controlled refrigerating system which employs dry ice as the refrigerant and controlled, forced-air circulation as the distributant, to provide highly uniform and effective refrigeration throughout all parts of a perishable cargo. Write the Hunter Manufacturing Company, 1550 East 17th Street, Cleveland 14, Ohio.



This Plug Sparkles!

A complete new line of rustproof outboard motor spark plugs (see circle) has been placed on the market by AC Spark Plug Division of General Motors. To overcome rusting, AC engineers developed a non-corrosive zinc finish that gives the plug a bright chrome-like appearance.

New Type Fish Fillets

SeaPak demonstrated a new frozen seafoods product for the first time at the National Restaurant Association meeting in Chicago, and landed a lot of orders from big buyers. The product, called Uni-Form, is a breaded fish fillet, graded so exactly for size that it can be portion controlled in the restaurant at any number of ounces per portion.

A popular item is four-ounce portions of ocean perch in their natural conformation, breaded, and ready for immediate frying or broiling without any further kitchen preparation. Cod, haddock, sole, and flounder are included in this new line of flash frozen seafoods, now being introduced nationally in the institutional trade and later in consumer packages too.

Battery Booklet

A new eight-page pocket-sized booklet on storage battery maintenance is entitled "Seven Rules for Maintaining Your Exide Ironclad Battery." Copies may be obtained by writing to The Electric Storage Battery Company, Box 8109, Philadelphia 1, Pa., specifying Form 5063.

TIDES OF THE INDUSTRY

Ostrander to Enterprise

Arthur W. Ostrander has been appointed sales manager of the Enterprise Engine and Machinery Division, General Metals Corp., San Francisco, states an announcement by executive vice president William Clausen.

Mr. Ostrander's appointment is an important part of the company's major expansion program which includes the introduction of new engine models in power capacities in excess of 5,000 horsepower, as well as a major increase in field sales and service personnel.

Mr. Ostrander, formerly with American Farm Machinery Company and the Superior Separator Company in Minnesota, is a graduate of Dartmouth College and holds a Master of Commercial Science degree from Amos Tuck School.

New Marine Engine

Latest addition to the popular Flagship Marine Engine line is a 6 cylinder, 320 cubic inch model. It produces 136 H.P. at 3,000 R.P.M., and 149 H.P. at 3,400 R.P.M. The 4x4¼ in. bore and stroke is coupled with a seven bearing crankshaft for smoothness. The Hercules block, cast of special corrosion resistant alloy, has full length water jackets. The compression ratio of 7.75 to 1 provides a very high horsepower per cubic inch ratio. Several other features are said to make this Flagship marine engine outstanding in its class.

Air-Sea Rescue Program

The "Dorado," a twin diesel launch of the Douglas Aircraft Company in Santa Monica, California, has been equipped with the new "Mariners Pathfinder" Model 1500 Radar by the Raytheon Manufacturing Co.

Designed to take part in the Douglas air-sea rescue program, the "Dorado" is stationed at San Pedro. Rescue facilities include, in addition to the launch, a helicopter equipped with droppable life rafts. The helicopter will be dispatched to the scene, drop a life raft, and stand by until rescue is effected.

The radar on the "Dorado" will be used for search operations when the visibility is poor. It reveals floating debris, markers and coastal shoreline in a picture of such clarity, that the vessel can carry on rescue operations even in the thickest fog.

Van Camp Personnel

Gilbert C. Van Camp, president of Van Camp Sea Food Company, Inc., Terminal Island, California, has announced important personnel appointments to coordinate sales and advertising of all products.

Malcolm J. Goldie, formerly General Manager of the Van Camp Laboratories Division, has been made Director of Sales and Advertising. Directly responsible to him are Clarence J. Harris, newly appointed to Sales Manager, and Robert K. Debnam who continues as Advertising Manager.

Malcolm J. Goldie

Robert G. Debnam

Clarence J. Harris

Mr. Goldie, progressing since 1940 through all phases of the firm's extensive fishery operations, is now responsible for sales and advertising of all Chicken of the Sea and White Star and other tuna products.

Mr. Harris brings equally broad tuna sales experience to his new post as Sales Manager. He joined Van Camp in 1939 as a retail salesman in Los Angeles and after service in World War II supervised the coast-to-coast sales promotional activities.

Mr. Debnam has been Advertising Manager of the firm since October, 1953. He came to this position after several years experience as account executive with Van Camp's advertising agency, Brisacher, Wheeler & Staff.

FWS Wins Award

In competition with other federal agencies, the Department of the Interior has won this year's top award in Marketing Research Studies. The American Marketing Association, through its Washington Chapter, has selected unanimously the Fish and Wildlife Service entry "Survey of the Domestic Tuna Industry."

During past months most of this survey appeared in various issues of this publication. The Certificate of Award was presented to the senior authors of the report, A. W. Anderson, Chief of the Branch of Commercial Fisheries, and W. S. Stolting, Assistant Chief of the Branch's Economics Section, at a dinner meeting in Washington.

In addition to the senior authors, 36 other fishery specialists contributed special sections to the report. Copies are available upon request from the Publications Unit, Fish and Wildlife Service, Department of the Interior, Washington 25, D. C.

The San Diego Waterfront

By ROBERT K. LAWSON

SITTING on the sidelines and observing the problems of the Southern California fishing industry gives us an impartial and objective viewpoint.

During the 30 days that have elapsed since we sat down to do this column last month, and the half-dozen years that have elapsed since we did the first one, much has happened in this industry.

It strikes us that these events seem to follow the same general pattern with but one significant thing standing out above all others.

One Big Point

We have the usual number of sinkings, groundings, explosions; the too-familiar skirmishes over territorial water limits; the seizures of vessels and the subsequent fines levied by foreign nations; the usual appeals to legislators on this thing or that thing; and the usual bills introduced each month. But . . .

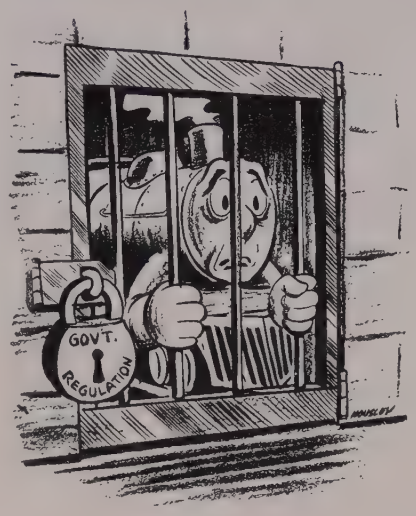
All of this time the big significant thing that looms like a spectre over the horizon of the Pacific is the ever-mounting import of Japanese tuna to this country.

This subject seems to receive the most discussion and the least action. Yet it is the crux of all matters big and little that block accord between the canners and the fishermen. All other industry matters are small compared to the flood of rising imports from Japan.

Nearly everyone has an opinion on the subject; in fact, the many diversified opinions may be responsible for lack of concerted action.

There is much talk among canners and fishermen about sticking together. Both are presumably in accord with this admirable proposal. But it is like trying to exact a vote of confidence in a band of robbers.

Actually, nobody is robbing anybody. Each phase of the industry is up against specific individual problems that can only be worked out when faced squarely and handled by the combined efforts of both. This is difficult when each takes an earnest but dim view of the problems of the other.



Where do we go from here?

Standing Idle

Today there are 50-odd tuna clippers, representing an investment of approximately $15,000,000, standing idly in San Diego Harbor, with about 10,000 tons of frozen tuna aboard, valued at around $3,000,000. From 900 to 1000 fishermen are out of work while these vessels are tied up.

The fishermen ask why their fish cannot be unloaded so they can return to the fishing grounds for more fish. The canners reply they have high inventories and cannot accept more fish until the market can absorb the supply. An economist might phrase this differently but it is essentially a matter of supply and demand.

The fisherman's attitude appears to be a very logical one. He maintains the American fleet is capable of filling the market demands, and that the high inventories are the result of high imports of Japanese tuna. He is right: Japanese imports supply 38% of the American market today.

Two Sides

For the canners side of the picture there is another argument, and it appears equally valid. The canner is in the food business—a highly competitive industry. If he is to remain in business he has to keep in sight the supply of raw materials necessary to his operation. The canner is reluctant to depend entirely upon the American fleet production to supply his market demands.

There are several reasons for this caution. The seizure of several loaded American vessels by a foreign nation; the sinking of several loaded vessels; the retirement of several vessels without replacements; the shifting of vessels from one canner to another . . . all such constitute hazards the canner doesn't want to face voluntarily.

He reasons against risks that could cost him the share of the market he has painfully built through the years. He also knows that a fruit or vegetagle canner could conceivably can tuna. Thus, if he relinquishes his place at the import trough it may be taken by another.

The fisherman also is in business: the business of supplying raw materials to the canner. In order to maintain that business he must be assured of an outlet. In addition he has a $200,000 to $500,000 vessel that must be kept operating constantly, or suffer staggering losses through tie-ups in port.

Not So Simple!

Consideration of these few basic facts shows that the tuna import situation is pretty complex. It cannot be resolved by simply cutting off Japanese imports. Nor can the canner submit to a situation whereby he is entirely dependent upon the production of the American fleet to stay in business.

The fishing business, being unpredictable, cannot always guarantee an adequate supply of raw material. The fisherman would like a guarantee for the prompt sale of his entire catch. For the canner to agree to this would mean that he would have to survey the American market very accurately.

This would not be impossible; he has already done that. The next step would then appear to be for the fleet to accurately forecast what percentage of that demand they could supply. With these answers it would be relatively simple to guage what imports might be required to fulfill the market consumption.

Is it that simple? Apparently not!

Innumerable suggestions and recommendations have been put forth. Some factions maintain that a tariff is the only answer. Generally speaking, the entire industry would be in accord with a quota, set up on a sliding scale in proportion to the American fleet production. This recommendation, according to industry heads, appears to have the more workable features in its favor.

It has, however, some complicating factors viewed in the light of the State Department where reciprocal trade agreements are to be considered.

Meanwhile, not much is being done except that a lot of hot air is fanned around by the canners, fishermen, and their representatives . . . to say nothing of politicians and publication editors. We'd be glad to hear from our readers on this . . . and will help all we can for the good of the whole industry. *

National Tuna Week

One of the most important events on the food calendar every fall is National Tuna Week. This year's dates: November 4-13.

A bumper "Week" was assured by an abundant supply of tuna. The clippers and purse seiners, which constitute the largest tuna fleet in the world, returned to the California docks with good catches for the 1954 season, and the canneries have been processing at a maximum output.

A forceful and nationwide publicity and advertising campaign, directed to the homemaker, has helped sales.

According to Edwin L. Morris, executive director of the Tuna Research Foundation, tuna from California is being publicized in most leading national media, with special recipes, feature and news stories and pictures. Television and radio also broadcast the message to consumers through scores of programs throughout the country.

In addition to this overall consumer campaign, individual member companies of the Foundation are all running special ad and promotional campaigns stressing "tuna from California." Point of purchase material has been widely distributed, and many displays with related items will be in evidence. Restaurants and hotels will include special dishes on their menus.

With all of this "push," plus the abundance of the product, Morris predicts that sales will again shoot up this year, and establish a record figure over the 1953 week. The calculation is for more than a half-billion cans of tuna to be consumed in America in 1954.

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Cruise Report On
TUNA SCHOOLS

THE FWS research ship *Hugh M. Smith* returned to its base at Pearl Harbor June 19 from a month-long series of tuna scouting cruises that covered a radius of over 800 miles around the Islands, according to Mr. Donald L. McKernan, acting director of the Pacific Oceanic Fishery Investigations.

The results of the cruise show that the skipjack or striped tuna, known locally as aku, were approaching their seasonal peak of abundance in Hawaiian waters. Bird flocks, the indicators of tuna schools to commercial fishermen and scientific observers alike, were most numerous about 40 miles south of Kauai, and thus within the range of the Oahu fishing fleet, but the flocks in that area were small. The biggest flocks, estimated to have contained 400 to 500 birds, were seen far to the south in the vicinity of Johnston Island.

Fishery biologist Daniel T. Yamashita, field party chief for the series of cruises, reported that aku schools and their attendant bird flocks were encountered as far as 840 miles to the southwest and 720 miles to the west of Oahu. The schools were moving erratically, but in general the direction of their advance appeared likely to bring more of them within the range of the commercial fishing fleet.

Aku Schools

The aku schools observed to the south of Oahu were made up of big fish, estimated to weigh 18 to 20 pounds. Most of the tuna seen off to the west of the island were smaller, in the 3 to 5 pound size range.

One of the missions of the operation was to capture aku for marking with a new type of tag developed and used successfully in California for tagging yellowfin tuna and albacore as well as skipjack. This tag consists of a thin plastic tube which is threaded through the muscles of the back of the fish, the serial number and message being contained within the tube. Although the aku is a notoriously hard fish to handle and usually struggles to its death within minutes of being brought out of the sea, the party aboard the *Smith* succeeded in tagging and releasing in good condition 22 large specimens.

Further tagging will be done on subsequent local cruises, and it is anticipated that the recovery of tagged fish by local fishermen may shed a great deal of light on the seasonal migrations of the aku into and out of Hawaiian waters. The cooperation of commercial fishermen in returning tagged fish to POFI or to the Territorial Division of Fish and Game is requested.

Japanese Longlines

Captain John Sutherland of the *Smith* reported, as an item of interest, the sighting of a long set of Japanese tuna longlines at a position 840 miles southwest of Oahu and 350 miles south of Johnston Island. Judging from what is known about Japanese fishing in that area, it is believed that this gear was set primarily for the capture of bigeye tuna.

Water temperatures were measured and sea water was collected and chemically analyzed at 21 locations, under the direction of oceanographer Gunter Seckel. The information so obtained will be correlated with the fish school and bird observations in order to seek an explanation of the distribution and movements of the aku schools and their accompanying birds. *

French Fisheries Troubles

The French fisheries obviously have problems which are not very much different from those affecting the United States fisheries, according to the Fish and Wildlife Service. The following are translated excerpts of a speech made by President Quebriac of the Central Committee of Fisheries of France at a Paris meeting:

"Now we come to the important problem of imports. It seems that the government wants to embark on a policy of more liberal imports of foreign products either by lessening the strict application of quotas or by making more funds available for international payments, or both. We are especially opposed to freeing the import of crustaceans, of oysters and other bivalves; also, of caviar and of fish eggs generally.

"We are especially opposed to making available funds for payments in foreign countries to purchase fishery products. We request, instead, that greater attention be given to certain weaknesses in our domestic fishing industry, which lacks modernization. It is necessary to undertake economic studies on price differences of French and Portuguese sardines, and on French and Moroccan sardines. The Moroccan sardine industry is favored by longer seasons, more modern vessels, and lower wages. We request government assistance in the increase of consumption of fish. We also request the lowering of taxes on gasoline and diesel oil for fishing vessels. The Committee also proposes for sardines and mackerel a minimum price.

"We are more hopeful for the development of the tuna industry because of higher prices for fresh tuna and canned tuna. But the best intentions remain on paper and cannot materialize if there is no spirit of unity among all parts of the fisheries. I appeal, therefore, to the unions, the boat owners, the processors, the wholesalers, and the retailers to unite in this hour in which we have to face very important problems."

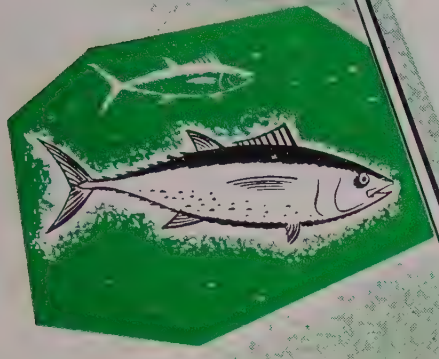
Current Tables for Pacific Coast

Serial No. 778—1955 Current Tables, Pacific Coast, North America and Asia—has just been issued by the Coast and Geodetic Survey. The new edition contains a table giving the predicted times of slack water and the predicted times and velocities of strength of current for each day of the year at a number of stations on the Pacific coast of North America and Asia.

It also contains a table of current differences and constants; a table for obtaining the velocity of the current at any intermediate time; and a table giving the duration of slack. Coastal tidal currents, wind-driven currents and the combination of currents are also discussed in the publication.

Current diagrams are given for the North and South San Francisco Bays. These diagrams are used for determining velocity and direction of current and the time of a favorable current for leaving or approaching port. Also included in the new serial is a table of the Greenwich civil time of the moon's phases, apogee, perigee, greatest north and south declination, moon on the Equator, and the time of the solar equinoxes and solstices.

Copies of Serial No. 778 are sold by the sales agents, district offices, and the Washington office of the Coast and Geodetic Survey. Price 50 cents per copy.



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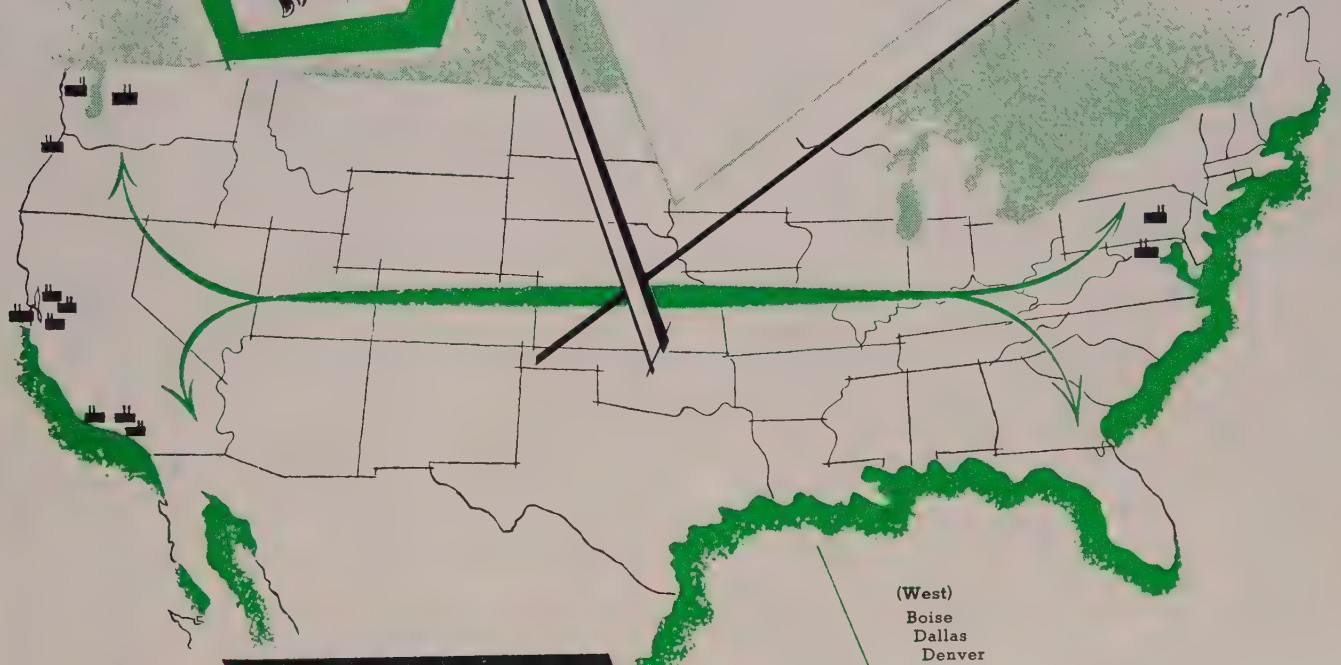

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THE SETUP OF THE

Marine Fisheries Branch

STATE OF CALIFORNIA

MARINE Fisheries Branch is responsible for the conservation and administration of ocean fisheries. Unlike management of inland fisheries or game, however, marine fisheries management can exercise little control over habitat. Therefore, the control must be applied to man, whose efforts if unchecked can lead to destruction of important fisheries. This is accomplished through laws and regulations, usually adopted as the result of recommendations on the part of Marine Fisheries personnel and commercial and sportfishing people.

Research is the keynote. The seas are vast, teeming jungles about which scientists as yet have much to learn. In order successfully to regulate commercial and sportfishing a continuous program of research must go forward, yet laws and regulations must be adopted or amended based on present knowledge.

Marine Fisheries in the last decade has added heavily to its knowledge of Pacific Ocean fauna inhabiting California waters, often in partnership with outside research organizations, and is stocking up new and important information continuously. The branch has laboratories at Terminal Island, Stanford University, Pacific Grove and Eureka, plus three research vessels and one small boat.

Some of the findings have led to such laws or regulations as minimum mesh size for otter trawl nets, the setting aside of waters within three miles of the coast as nursery grounds for bottomfish species, minimum size and the setting of seasons for commercial salmon fishing, denial of reduction permits for the nearly vanished sardine, and protection of salmon spawning areas.

Two major California industries —commercial and sportfishing—live on ocean fishing. The State's commercial fishing industry is the largest in the United States. The wholesale value of commercial fishery products is about $200,000,000 a year.

The sportfishing industry also is huge and has risen from the prewar 250,000 angler days annually to 577,000 angler days in 1952. These figures represent only those anglers who were carried on sportfishing boats operated for hire, excluding privately owned vessels. Thirty-two per cent of all sport angling time of California fishermen is given to ocean fishing, two-thirds of which is done in ocean waters from Santa Barbara south.

Commercial fishing and sportfishing are too closely related to be broken apart. Successful regulation of both requires balancing the needs of one against those of the other, and adopting policies on limits, seasons and sizes that take both industries into consideration. This again depends on the success of the Marine Fisheries Branch research program.

Development of New Fisheries

Two measures may be taken to cope with the waning fishery. One is to adopt stringent conservation measures and hope they will save the fishery. The other is to develop new fisheries in the attempt at least partially to replace the old. With sardines virtually vanished — possibly forever—and the Pacific mackerel also out of the picture, Marine Fisheries has done much in recent years to help develop new, economically important fisheries by exploratory fishing and encouragement of industry to enter new fields. Among new or revived fisheries may be numbered shrimp and oyster, plus aid to the California tuna fishery—largest single fishery in the United States—in fishing new waters, and efforts to locate and develop fishing areas that are presently untouched.

Shrimp

Three years ago Marine Fisheries research vessels, doing exploratory fishing for shrimp at the request of fishermen, located several promising shrimp beds, notably off Morro Bay, Tomales Bay and off Eureka north to the Oregon border. The branch personnel set to work and developed a fine mesh beam trawl designed to bag a maximum number of shrimp and a minimum of fish. Several commercial organizations were interested in investing in processing plants. The California shrimp industry was born in 1952 and more than 200,000 pounds were landed in this first year. It is too soon to know how large or successful this new fishery will become, but a promising start has been made and catches have increased greatly so far this year.

Oyster

Future of the oyster industry in California is bright if pollution factors do not interfere. This old California fishery, which flourished from 1879 to 1890, yet which by 1910 was virtually extinct, seems due for an important rebirth. Two thousand cases (averaging about 20,000 to a case) of Japanese seed oysters were planted in the Morro Bay area alone from December 1952 to March 1953, and Drake's and Tomales bays likewise are receiving their share of attention. Marine Fisheries so far has been able to keep diseases out of the beds and 1954 should be a big harvest year.

All oyster seed must be imported from Japan, but the species that takes several years to grow there reaches harvest size in California waters in 18 months. Marine Fisheries, in addition to helping develop beds that previously were producers, is experimenting with oyster planting off Arcata, in Elkhorn Slough off Monterey Bay, and in the Salton Sea.

Tuna

The department constantly has encouraged the exploration of new tuna fishing waters and has set the example by exploratory fishing. One recent development has been experimentation with an adaptation of Japanese style long-line fishing. Tuna fishing boats continue pushing into new waters with a high degree of success.

Deepwater Fishing

Exploratory efforts to trawl for fish in waters as deep as one mile began three years ago and are continuing. Department personnel report some edible fish have been caught between this extreme depth and lesser depths that are now successfully fished. *(Continued on page 24)*

REPORT FROM WASHINGTON

(Continued from page 8)

Other reports of tuna catches stored aboard vessels 14 days in sea-water ice showed that the temperature in the muscle area of the tail section on landing was 32° F. for fish weighing approximately 12 pounds each. A vessel using regular ice on an 18-day trip had tuna aboard that showed a temperature of about 46° F. for the same size fish.

A trawler, carrying both regular and sea-water ice, had small grunards aboard after 5 days in regular ice at meat temperatures of about 39°. This species stored in salt-water ice, had meat temperatures of 37° after the same storage period.

Hake stored at sea in salt-water ice for two days and thereafter ashore in this ice in boxes at 32° storage for 5 days were adjudged excellent in appearance. The temperature of the meat then was 33° F.

Some of the characteristics of the salt-water ice claimed as beneficial for fish preservation are (1) Ice melts at about 24° F.; (2) melt water has salinity of 10-12 per cent; (3) preservation of fresh fish flavor that only sea-water ice can retain.

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FWS PEOPLE.--The Interior Department recently made two shifts of top personnel in the Fish and Wildlife Service's Branch of Commercial Fisheries.

Donald E. Powell has been appointed chief of the Exploratory Fishing and Gear Development Section, one of seven sections in the Service's Branch of Commercial Fisheries. Ralph Baker has been named Assistant Chief of the Branch of Alaska Fisheries of the FWS. Both men have been with FWS for some years and are thoroughly experienced.

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MINIMUM WAGE BOOST.--You can look for a drive in Congress next year to boost the national minimum wage of 75 cents per hour to $1 or higher. Several studies now are being conducted here to provide ammunition for this drive. Chances are that the Eisenhower Administration may give it the green light.

Meanwhile, the Economic Section of the Branch of Commercial Fisheries is getting ready to launch a survey on its own--covering the different segments of the fishing industry throughout the country to find out what the prevailing wage rates are.

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FROZEN FOOD CODE.--The Federal Trade Commission is expected to call a conference in early December on trade practice rules for the frozen food industry. FTC will act on the application of Ellis Arnall, counsel for the National Wholesale Frozen Food Distributors.

According to Washington interpretation, the frozen food industry probably comes under the trade practice regulations which govern the grocery industry. Advocates of the frozen food trade practice rules believe that a separate code should be set up to cover packers and distributors. Frozen food packers have worked together with the Wholesale Frozen Food Distributors in writing up the original draft of trade practice rules.

LOKKEN TO GENEVA.--Harold E. Lokken, executive secretary of the Fishing Vessel Owners' Association, was attending the International Labor Organization meeting at Geneva as this was written. He attended as representative of the management part of the fishing industry. Among the problems discussed by the special committee of which Lokken is a member was whether working conditions in the fishing industry need international action.

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FIRST PAPERS.--The Fish and Wildlife Service reports that a total of 42 vessels of 5 net tons and over received their first documents as fishing craft during August. This compares with 56 vessels receiving first papers in August of last year.

Documentations were fewer in each area except in the Pacific Coast States where 12 vessels received first documents in August 1954 compared with 9 in August 1953. During the first 8 months of this year 571 vessels received their first documents as fishing craft--73 more than during the same period of 1953.

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FEDERAL SPECIFICATIONS.--If you're interested in bidding on government fish purchases, you'll want a copy of the revised Federal Specification for fresh and frozen fish, PP-S-381d. This is used by all Federal agencies which buy fish.

Single copies of this specification required by commercial firms for bidding purposes can be obtained free of charge at General Services Administration offices at San Francisco, Los Angeles, Seattle, and Washington, D. C. If you're interested in more than one copy or want the specifications for other purposes, you can buy them for 14 cents per copy from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.

--o--

1952 FISH CATCH.--In 1952, shrimp took over the top spot as most valuable species of fish caught, tuna was second and salmon a close third. Total catch of fishery products in the United States and Alaska totaled slightly more than 4.4 billion pounds--about same as previous year--valued at $360 million to fishermen.

A new bulletin put out by the Fish and Wildlife Service shows that the value of shrimp caught in 1952 was $55 million. The value of tuna caught was $49 million. And for salmon, it was $45 million. The species taken in greatest volume was menhaden--1.4 billion pounds. Volume of salmon caught was second largest at 352 million pounds. Tuna came in third with a total catch of 325 million pounds. Catch of Pacific sardines dropped from 329 million pounds in 1951 to 14 million pounds in 1952. Ocean perch landings also declined sharply.

In 1952, there were 152,500 fishermen who operated 88,300 fishing craft of all types from small skiffs to large ocean-going tuna clippers and trawlers.

If you want a copy of the bulletin for all details about the 1952 fishing season, you can get one free by writing the Division of Information, U.S. Fish and Wildlife Service, Washington 25, D. C.

DISCOLORATION
IN CANNED TUNA

AN interesting report has been made by the Seattle Technological Laboratory on the project, "Sulfide Discoloration in Canned Tuna," which is sponsored by the Continental Can Company.

Purpose of the project is to determine why some batches of tuna tend to cause sulfide discoloration of the cans. A study is being made of the reaction mechanism whereby iron sulfide is formed during the canning of tuna and of the factors which favor the reaction. This work includes a study of the compounds acting as a source of sulfide sulfur in tuna and the effect of such conditions as pH and spoilage of the flesh on the sulfide discoloration of the cans.

Sulphur and Sulfide

In order to form black iron sulfide in cans of tuna, sulfide sulfur must come in contact with the iron of the can under conditions favorable for the chemical reaction to occur. Sulfur occurs in fresh fish flesh in a form other than sulfide. It is present in such amino acids as cystine and methionine which make up a portion of the fish proteins. During spoilage of fish, a part of the sulfur is converted to the sulfide form. If this fish were canned, the sulfide would be available for reacting with any exposed iron in the can. For such a reaction to take place, however, certain other conditions, for example, the optimum pH, must be present.

The effect of condition of the fish upon sulfide discoloration is being investigated to determine whether the sulfide comes from partly degraded fish or directly from the protein or amino acids of the fresh fish. Other factors which might be important to the reaction of sulfide with iron (for example the pH of the flesh) are being studied. The effects of variations on the processing procedures are also being considered.

The results so far seem to indicate that:

(1) The effect of variations in the condition of the tuna used for canning is only a minor factor in can discoloration.

(2) The amount of precooking of tuna has little effect on can discoloration.

(3) There is some possibility that the pH of the tuna may play an important role in can discoloration. (This point is being further investigated.)

(4) Sulfides are present in fresh tuna both in bound form and as free hydrogen sulfide, the amount increasing with spoilage.

(5) Essentially all of the sulfur present in the form of sulfide in the fresh fish is driven off during the precook period. (This occurred even with fish that were given a much shorter precooking period than is normally practiced commercially.)

(6) Sulfides are found in the canned product. (Since the fish packed into the cans were free of sulfide, the sulfides in the canned fish must have been formed during the final heat processing.

(7) The sulfides formed during the heat processing probably come from the high molecular weight protein fraction of the tuna flesh. *

The 1952 Production

During 1952, the production of fish and shellfish in the Pacific Coast States (Washington, Oregon, and California) amounted to 831,879,000 pounds valued at $90,720,090 to the fishermen.

This represented a decrease of over 235 million pounds or 22% in quantity and $6.5 million or 7% in value compared with the landings of the previous year.

Pilchard landings (14 million pounds) were nearly 315 million pounds below the production of the previous year.

Tuna receipts (323 million pounds) rose 5.7 million pounds during 1952 compared with 1951, while salmon (69 million pounds) dropped 28.3 million pounds during the same period.

Fishery Meeting in Havana

The Seventh Annual Session of the Gulf and Caribbean Fisheries Institute will be held from November 15 through November 19, 1954, in Havana. This is the first year that the Institute has not met in Miami Beach. The change in location is the result of a request from the Banco de Fomento Agricola e Industrial de Cuba, which is interested in promoting the Cuban fishing industry, and in particular the new shrimp industry. The Development Bank is helping to finance this year's meeting.

The headquarters is the Hotel Nacional de Cuba, the finest in the city. Special rates have been obtained. Meeting the same week will be the Shrimp Association of the Americas, the Southeastern Fisheries Association and the Atlantic States Marine Fisheries Commission (Southern Section). This insures a fine attendance from the whole fishing industry.

The program will include an Industry Session, a Technology Session (on quality standards), a Biological Session (on marine fish and invertebrate behavior), an Economic Session (on fishing boat insurance) and an Oyster Session.

Electronics Aid Fishing

Further evidence that electronics is playing an important part in the fishing industry was demonstrated in New Bedford, reports Raytheon in revealing that the top seven vessels landing fish during the last month are all equipped with their "Fathometer" echo depth sounders.

Fishing, for the owners of these vessels, has become a science. With their electronic "fish finders," they can locate the underwater hills and valleys where ground-fish are found, or discover school of pelagic fish.

When used for seining, these echo depth sounders make it possible to locate the heaviest concentrations of fish within a school. Thus they enable fishermen to cast their nets with greater accuracy, so that fewer fish escape as nets are pursed.

The leading New Bedford vessels use two types of each depth sounders, "recorders" and "indicators." A "recorder" reveals fish schools and bottom information on graph paper which can be stored for future reference, while an "indicator" provides the same information by means of a flashing light on a calibrated dial. So sensitive are the equipments, that they can even be used to distinguish between mud, sand and rock bottoms.

Marine Fisheries

(Continued from page 20)

Research Techniques

Constantly increasing fishing pressures require the development of new techniques. Some of these, developed by the Marine Fisheries Branch, may be of interest to the reader.

Salmon Tagging

The salmon tagging program began before World War II, was interrupted, and reached its full development in the years from 1947 to 1952, when the program was completed. California personnel developed a successful, noncorrosive tag that stayed on. The program hit its peak in the final year, when 3,000 adult salmon were tagged and about 2,000,000 young salmon were fin-clipped and released. Several sportsmen's organizations gave invaluable aid by offering prizes for returned tags.

The main objective of the program was to determine what rivers were producing fish and which needed attention in the face of new water projects. The principal fact learned was that the salmon is a coastwide fish and that California's problems are also those of Oregon, Washington and British Columbia. For example, salmon spawning grounds in California's American River, if interfered with, would seriously affect the commercial catch in Oregon and Washington. The same holds true for fish spawned in the north as related to the California catch.

The important result of the salmon tagging program has been united thinking and action on the part of fisheries experts of the several states for protective construction on various water projects, regardless of which state *seemed* directly involved. What hurts one, hurts all. What helps one, likewise helps all.

Tuna Tagging

For more than 100 years men tried unsuccessfully to tag tuna. It remained for the Marine Fisheries Branch, California Department of Fish and Game, to develop in 1950 the first successful tuna tag in history — a plastic tube that passes through the fish's body—that stays put. Japan already has adopted the California tuna tag. One such tagged tuna, incidentally, this year swam from Catalina to a point 400 miles off Tokyo in 10 months. The 4,500-mile swim set a world record distance for any kind of tagged fish between tagging and recapture.

Kelp Bass Tagging

This important Southern California sportfish has been successfully tagged in the last two years to prove (1) that the fish moves around very little, and therefore (2) the species may easily be fished out of a given area if not carefully conserved. Regulations have been adopted accordingly on the recommendation of the Marine Fisheries Branch.

Underwater Techniques

The branch in the last few years has pioneered research in underwater gear and underwater fishing, using both the aqua lung and full-suited diving equipment. Personnel also have pioneered the use of underwater photography.

Fish Counting

Marine Fisheries recently perfected methods of estimating quantities of small sardines and other schooling fish by counting schools over the same areas at the same times of the year. This leads to accurate predictions of how many adult fish may be expected to develop several years later—an important tool in looking ahead toward setting regulations and limits.

Cooperative Research

Ocean fishes know no boundaries. Therefore, it is necessary that ocean fisheries research be carried out cooperatively by numerous organizations. The Marine Fisheries Branch has carried out cooperative research programs with scores of different organizations over the last few years. Some of these are indicated below.

Pacific Marine Fisheries Commission

This commission was established in 1947 by a compact between California, Oregon and Washington to utilize jointly the research staffs of the three states. In cooperation with Canada the commission has made great progress in studies of the fisheries which are of mutual interest. New regulations recommended to the member states have resulted in improved conditions.

Marine Research Committee

Also organized in 1947, this agency coordinates the work of the California Cooperative Oceanic Fisheries Investigation, consisting of the Department, the U. S. Fish and Wildlife Service, University of California (Scripps Institution of Oceanography), Standford University, and the California Academy of Sciences.

The branch also works cooperatively with the Fish and Wildlife Service on federal aid projects for sportfishing, and with the same Service and the Inter-American Tropical Tuna Commission (U. S. and Costa Rica) on tuna research. ★

OFF-SHORE SITUATION . . .

Chile, Peru and Ecuador have rejected the protests of the United States, Britain, Sweden and Norway. These four countries joined in protests against the decisions of the South American countries to extend their sovereignty over ocean waters 200 miles off their coasts. But apparently the latter are going to stand pat — at least for a while.

With governmental machinery in motion on both sides of the controversy mentioned above, Southern California tuna interests decided they do not intend to recognize a manifesto by Chile, Peru and Ecuador, claiming jurisdiction to waters 200 miles from their shorelines.

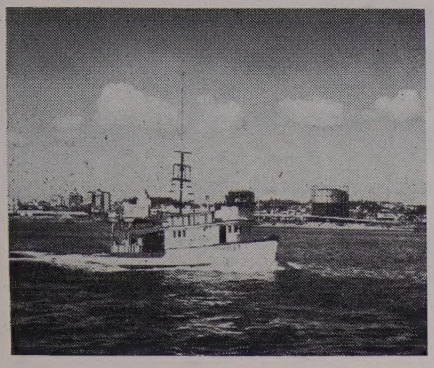
The American Tunaboat Association, San Diego, representing the owners of more than 100 large clippers, declared that this pronouncement by the South American countries is a "flagrant violation of freedom of the seas" and that as long as the United States government does not recognize the 200-mile limit the fishing boats operating out of San Diego do not intend to do so either.

The three South American countries would be able to set fishing regulations and collect license fees under their decision to extend jurisdiction over offshore waters to a 200-mile limit.

"United States law honors the three-mile limit, which our fleet will honor," said Harold F. Cary, manager of the Tunaboat Association.

"San Diego tunaboats on the high seas represent the sovereign power of the United States, and our nation's laws determine where they can and can not go." He added:

"If such a territorial limit is honored and fishing vessels have to pay money to work inside this limit, it will take us back to the days of the Tripoli privateers, who demanded tribute from American ships sailing the Mediterranean until our Navy stopped the practice."



Good Engine Performance

Dale Martin and Louis J. Gaebe's fishing boat "Myrtle L," out of San Diego was repowered with a new Caterpillar D337 Marine Engine to provide propulsion power.

The new engine replaced a Cat D13000 Engine which, according to Dale Martin, had operated 21,000 hours without a failure at sea. The D13000 and a Cat D3400 Engine, still used for auxiliary power and which has recorded over 28,000 hours of duty, were both installed when the boat was built in 1945.

The "Myrtle L" is 45 feet 7 inches in length with a 51 foot 1 inch width. It fishes for yellowtail, skipjack, albacore, and tuna both north and south of San Diego.

Value of Canned Fish and Byproducts 1934-1953

Year	Canned	Byproducts	Total
1953	$306,873,674	$74,371,996	$381,245,670
1952	305,829,198	67,991,631	373,820,829
1951	301,210,295	69,313,027	370,523,322
1950	331,335,347	77,188,366	408,523,713
1949	295,503,905	78,472,495	373,976,400
1948	336,181,000	79,866,000	416,047,000
1947	310,679,000	80,592,000	391,271,000
1946	227,629,000	76,643,000	304,272,000
1945	152,800,000	58,221,000	211,011,000
1944	152,914,000	63,299,000	216,213,000
1943	141,189,000	59,136,000	200,325,000
1942	144,997,000	50,897,000	195,894,000
1941	138,684,000	56,801,000	195,485,000
1940	94,182,000	30,554,000	124,736,000
1939	96,627,000	34,039,000	130,666,000
1938	83,446,000	30,576,000	114,022,000
1937	105,175,000	36,804,000	141,979,000
1936	94,564,000	34,969,000	129,533,000
1935	74,999,000	29,520,000	104,519,000
1934	80,021,000	22,598,000	102,619,000

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Polaris Sets Amazing Record with Gargoyle Lubricants

Skipper Arne Einmo at the wheel of the Polaris.

In long fishing hauls that have taken her to such far-away points as the Aleutian Islands and the coast of Mexico, the schooner Polaris has set an amazing performance record with Gargoyle marine oils—22 years with original pistons and piston liners.

Skipper Arne Einmo of Seattle reports that although the Polaris is often at sea for more than a month at a time, its 175 HP Atlas engine has never been re-bored.

"We've had such outstanding performance with Gargoyle oils, we always make sure we have a drum aboard so we won't have to use another oil on our long tuna and halibut runs," Einmo says.

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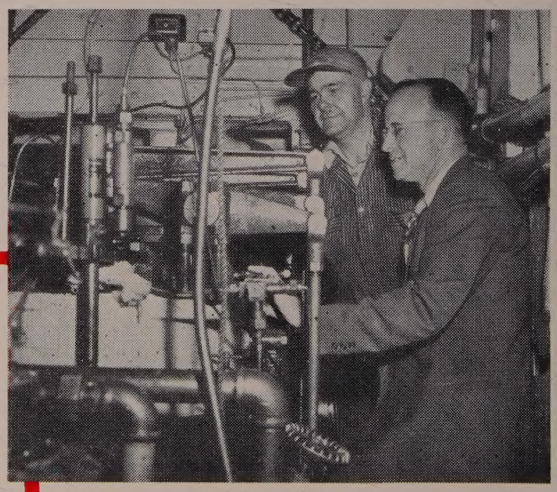

G.P. Marine Representative Ted Rasmussen, right, discusses cylinder lubrication with Arne Einmo in the Polaris engine room.

No matter what kind of boat you operate, there's a performance proven Gargoyle marine lubricant to protect its costly engine every working mile. Visit your friendly General Petroleum marine distributor the next time you're in port for the absolute tops in service and product quality!